Celsius Pro

Celsius Pro Installation Manual

Celsius Pro heat pumps provide quiet, efficient inverter heating that costs less to run than gas alternatives.



Pro Range: DC Inverter Technology

PR21 PR17 PR13

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Please read carefully and keep for future use.
This manual provides you with the necessary information for optimal use and maintenance. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



Warning

a. Please read the following tips before installation, use and maintenance.

b. Installation, removal and maintenance must be carried out by a professional in accordance with the instructions.

c. Gas leakage test must be done before and after installation.



Warning: Flammable material.



Read the operator's manual.



Operator's manual: Operating instructions.



Service indicator: Read technical manual.

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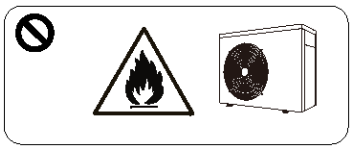
1. Use

a. The unit must always be installed or removed by professionals, and it is forbidden to dismantle and reassemble without permission.

b. Do not obstruct or insert any objects into the inlet or outlet of the heat pump. The efficiency may be reduced or even stopped.

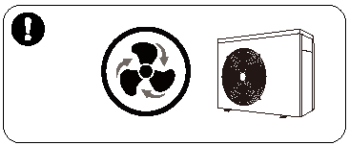
c. Do not obstruct the air inlet or outlet of the heat pump.

2. Installation

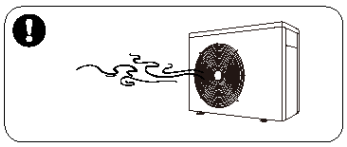


a. This product must be kept away from any source of fire.

b. To avoid fire hazards, do not store or use combustible gas or liquids such as thinners, paints or fuels near the heat pump.



c. The unit cannot be installed in a closed environment or indoors unless appropriate ventilation, clearance and fresh air intake requirements are met.



d. If you detect any abnormal noises, odours, smoke or leaks from the heat pump, immediately switch off the power supply and contact your local dealer. Do not attempt to repair the heat pump yourself.

3. Transportation & Storage

a. Sealing is not allowed during transportation.

b. The unit must be far away from any source of fire.

c. The storage location must be open and well ventilated.

4. Maintenance Notice

a. If maintenance or scrapping is required, contact a nearby authorised service centre.

b. Qualification requirements as set out by Australian Regulations:

i. A refrigerant handling licence (RHL) is required to work on systems containing R32.

ii. A refrigerant trading authorisation (RTA) is required to acquire, possess and dispose of R32.

Compliance must be strictly in accordance with the manufacturer's requirements when performing maintenance or filling gas. Please refer to the technical service manual.

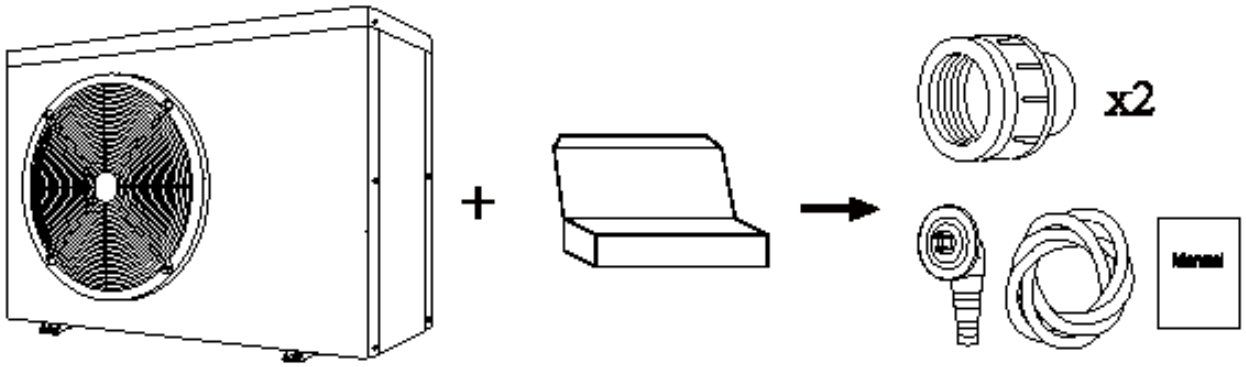
For more information, please visit the relevant organisations:

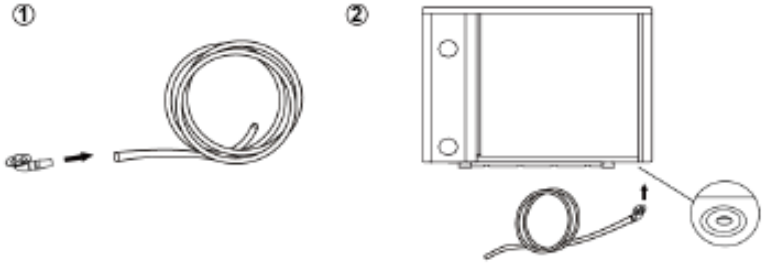
- AIRAH — https://www.airah.org.au/
- ARCtick — https://arctick.org/
- Your local state refrigerant and WHS authority
- Standards Australia — https://www.standards.org.au/

1. General Information

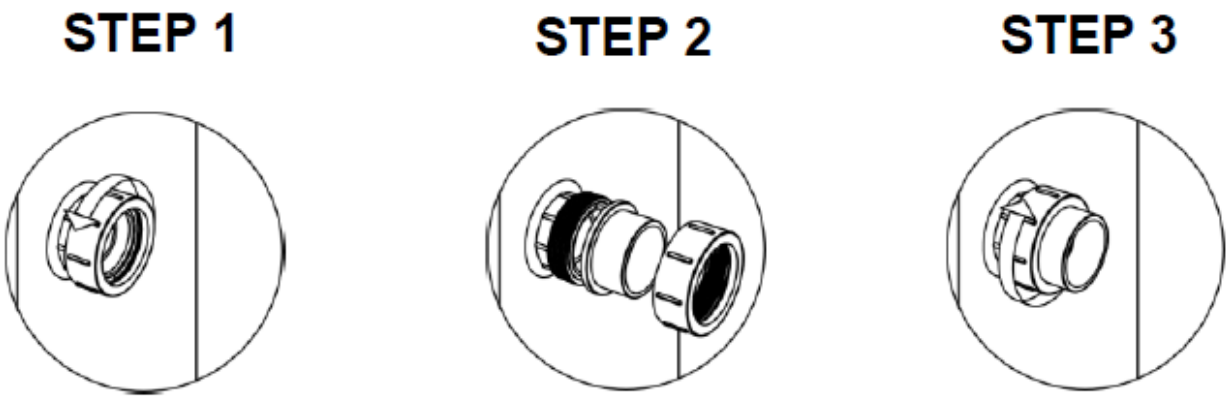
Contents

After unpacking, please check you have all the following components:
Note: Only PR13 has a three-pin plug supplied; all other models are hardwired.





Note: Please install the water unions step by step.



Operating conditions and range

ITEMS		RANGE
Operating range	Air temp	0°C ~ 43°C
Temp. setting	Heating	18°C ~ 40°C

The heat pump will have ideal performance in the operating range Air 15°C ~ 25°C.

Advantages of different modes

The heat pump has two modes: Smart and Silence. They have different advantages under different conditions.

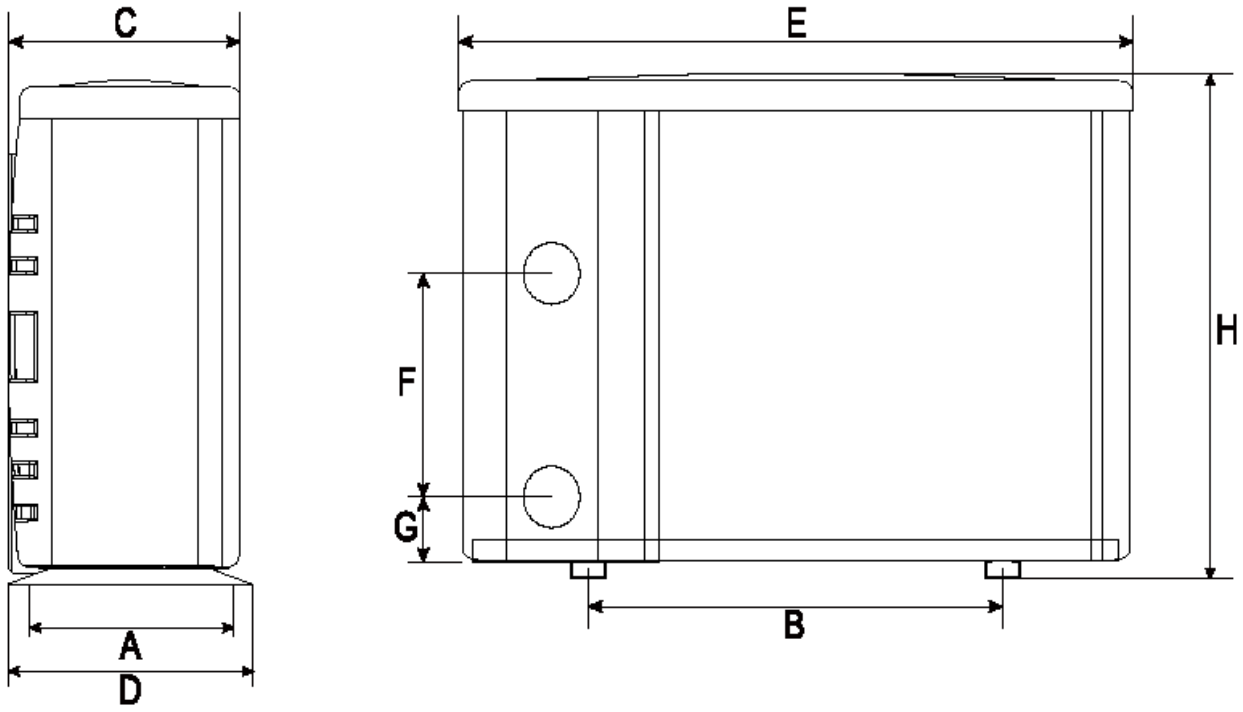
MODE	RECOMMENDATION	ADVANTAGES
Smart Mode	Smart mode As standard	Heating capacity: 20% - 100% capacity Intelligent optimization Fast heating
Silence Mode	Silence mode Use at night/Antisocial hours	Heating capacity: 20% - 80% capacity Sound level: 3dB (A) lower than Smart mode

2. Technical Parameter

Description	Unit	PR13	PR17	PR21
Performance Condition: Air 26°C, Water 26°C, Humidity 80%				
Heating capacity	kW	12.5	16.0	20.0
COP		7.0~11.6	7.1~11.2	6.5~11.8
COP in 50% capacity		10.1	9.7	10.2
Performance Condition: Air 15°C, Water 26°C, Humidity 70%				
Heating capacity	kW	8.5	11.0	14.0
COP		4.8~6.3	4.7~6.4	4.6~6.5
COP at 50% capacity		6.1	5.9	6.1
Sound pressure at 1 m	dB(A)	42.9~53.0	45.2~56.3	45.3~57.1
Sound pressure at 50% capacity, 1 m	dB(A)	48.5	48.7	49.6
Sound pressure at 10 m	dB(A)	22.9~33.0	25.2~36.3	25.3~37.1
Power supply	230V~/1Ph/50Hz			
Rated input power at air 15°C	kW	0.47~1.78	0.59~2.34	0.75~3.04
Rated input current at air 15°C	A	2.02~7.74	2.52~10.17	3.26~13.21
Advised water flux	kW	66~100	108~142	133~166
Fittings (Australian)	A	50	50	50
Net dimensions (L × W × H)	Mm	872*349*654	962*349*654	962*349*754
Net Weight	kg	49	60	68

The values indicated are valid under ideal conditions including pool covered with a thermal cover. Related parameters are subject to adjustment periodically for technical improvement without further notice.

3. Dimensions

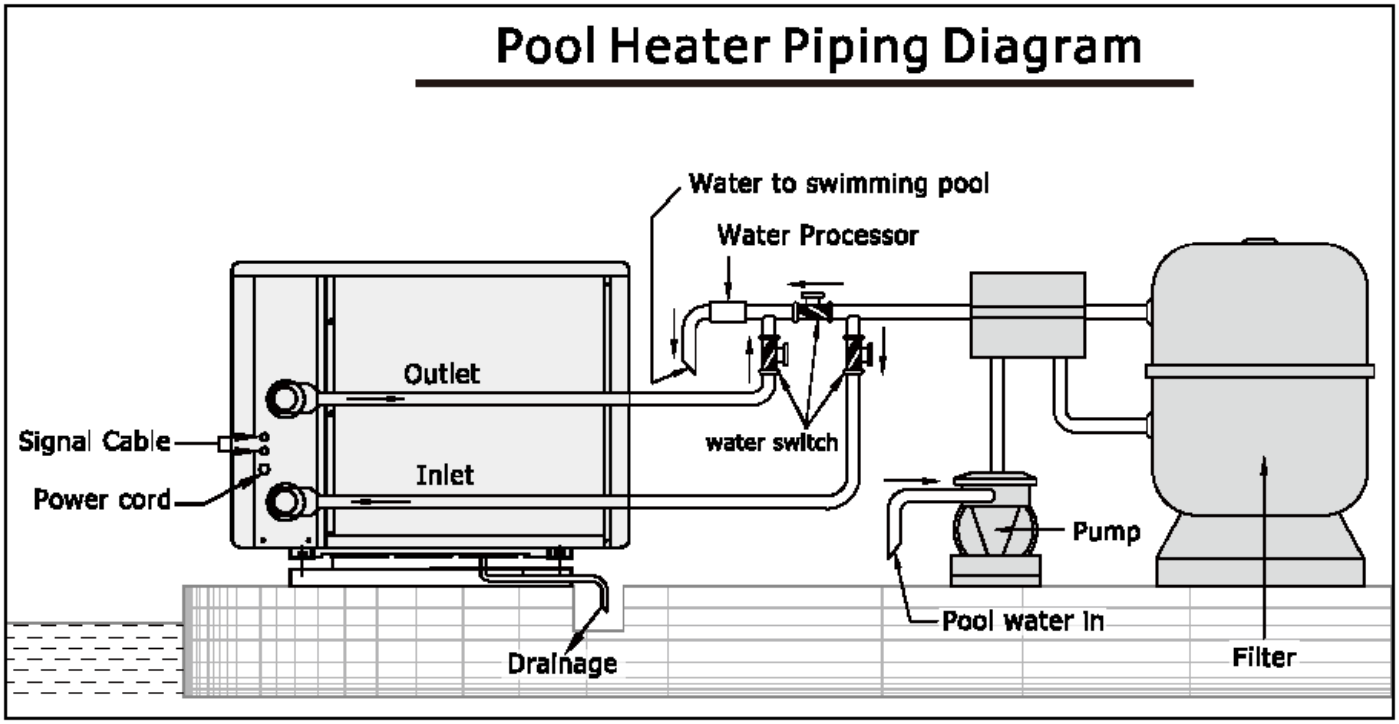


Unit mm	A	B	C	D	E	F	G	H
PR13	324	560	330	349	872	320	74	654
PR17	324	590	330	349	962	350	74	654
PR21	324	590	325	349	962	350	74	754

Note: The above data is subject to modification without notice.

4. Installation Instruction

1. Drawing for water pipes connection



Note: The drawing is just for demonstration, and layout of the pipes is only for reference.

2. Installation instruction and requirement

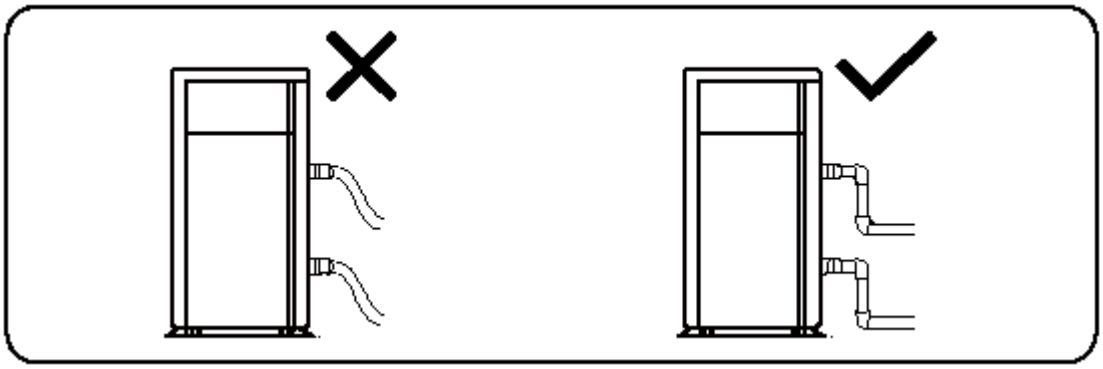
The heat pump must be installed by a professional or experienced tradesperson, otherwise the heat pump might be damaged and there is a potential user risk.

ATTENTION

The heat pump can only be used to heat the pool water. **It must NEVER be used to heat any** other flammable or turbid liquid.

Installation

Plumbing connections must be made with a solid PVC pipe. Usage of flexible PVC pipe is not recommended.

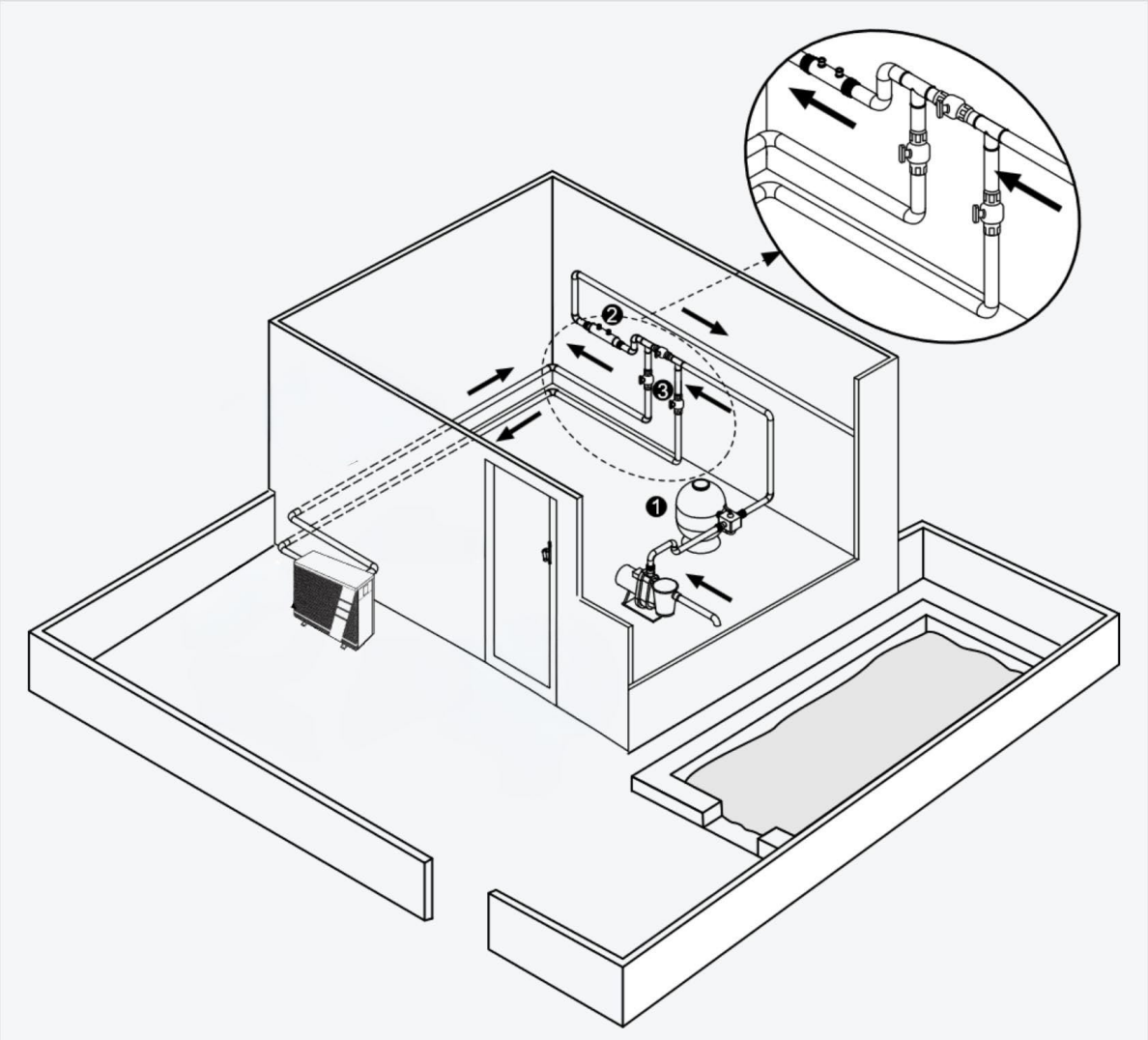


In order to guarantee the best heating efficiency, the water pipe length between the pool and the heat pump should be <10m.

ATTENTION

The heat pump should be installed in a place with good ventilation.

The heat pump is usually installed within a perimeter area extending 7.5m from the swimming pool. The greater the distance from the pool, the greater the heat loss in the pipes. As the pipes are mostly underground, the heat loss is low for distances up to 30m (15m from and to the heat pump; 30m in total) unless the ground is wet or the groundwater level is high. A rough estimate of the heat loss per 30m is 0.6 kWh (2,000 BTU) for every 5°C difference between the water temperature in the pool and the temperature of the soil surrounding the pipe. This increases the operating time by 3% to 5%. Do not obstruct the air inlet or outlet of the heat pump as the efficiency may be reduced or stopped.



Recommended installation layout and minimum clearances (dimensions in mm)	
Minimum Clearances	**Plumbing Components**
Front (air discharge) Fan-outlet: **1500mm**	1 - Filter
Left side to wall or obstruction: **700mm**	2 – Dosing Equipment (eg: Chlorinator)
Right side to wall or obstruction: **700mm**	3 – Valves (Bypass)
Rear (air intake) clearance: **500mm**	Arrows indicate the direction of water flow through the circuit

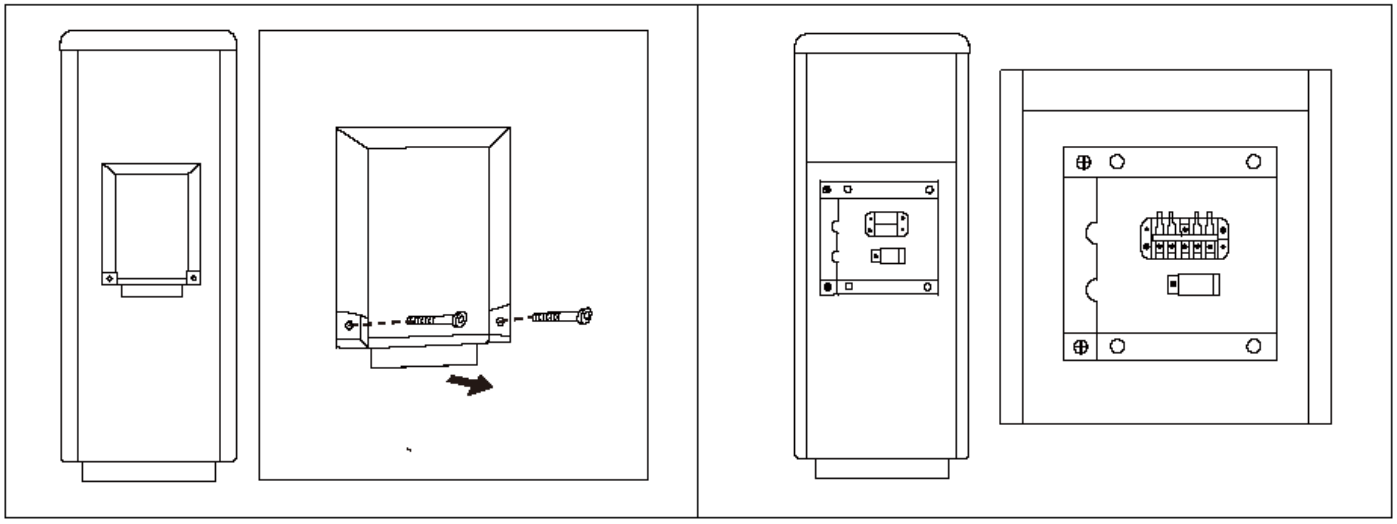
Heat Pump Installation

- The frame must be fixed by bolts **(M10)** to concrete foundation or brackets. The concrete foundation must be solid; the bracket must be strong enough and anti-rust treated;
- The heat pump needs a water pump (Supplied by the user). The recommended pump flow specification refers to the Technical Specification section.
- When the heat pump is running, there will be condensation water discharged from the bottom. Please pay attention to it. Please insert the drainage tube (accessory) into the hole and ensure it clips in place, then connect a pipe to drain off the condensation water.

3. Connecting your power wire

Note: Please open the panel for power connection.

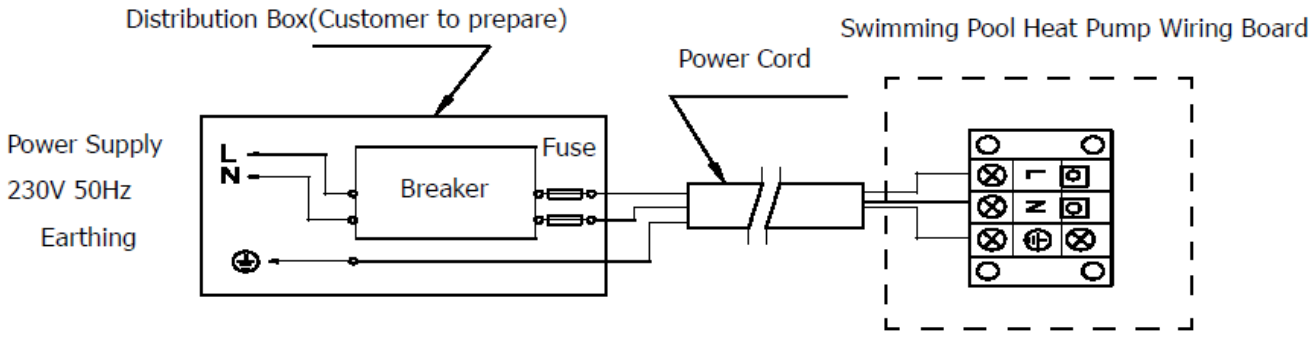
For power supply: 230V 50Hz



1. Use a screwdriver to take off the 2 screws at the bottom of the right-side panel. Take off the lower half of the panel.

2. Unscrew the 3 screws on the cover of the electrical box.

3. Connect the terminals according to the electrical diagram.



Note: The swimming pool heater MUST be earthed well.

- Except for ≤13kW models, all units must be hard wired.
- The wiring circuit: please make sure that the leakage protection switch has been installed.
- If the machine does not come with a plug power cord, you must connect the power supply by hard wiring; connecting plugs is prohibited.
- If the machine comes with a plug, please make sure that the plug and socket have good waterproofing.
- For safe use in winter, it is strongly recommended to install the heating priority function.
- For the detailed wiring diagram, please refer to Appendix 1 on page: 25.

4. Electric Wiring Diagram

Options for protecting devices and cable specification

MODEL		PR13	PR17	PR21
Breaker	Rated Current (A)	15.0	19.0	22.5
	Rated Residual Action Current (mA)	30	30	30
Max input current (A)		15.0	17.0	19.5
Fuse (A)		15.0	20.5	23.5
Power Cord (mm2)		3x2.5	3x4	3x4
Signal Cable (mm2)		3x0.5	3x0.5	3x0.5

Note: The above data is adapted to power cord ≤ 10m. If the power cord is >10m, the wire diameter must be increased. The signal cable can be extended to 50m at most.

Wiring & protecting devices and cable specification

- Connect to appropriate power supply, the voltage should comply with the rated voltage of the products.
- Ensure the earth is safe and suitable.
- Wiring must be connected by a professional technician according to the circuit diagram.
- Set breaker or fuse according to the local code (leakage operating current ≤ 30mA).
- The layout of the power cable and signal cable should be orderly and not affected by each other.
- If you use site generated energy to power the heat pump, please make sure the power supply voltage is stable and the voltage range is within the range indicated on the equipment. Unstable voltage or voltage range beyond the indicated value can cause damage to the unit.

Operating Instruction



SYMBOL	DESIGNATION	OPERATION
	Power ON/OFF	1. Press to power on/off the heat pump 2. Wifi Setting
	Mode	Press to select Smart/Silence mode Smart mode: 100%-20% capacity Silence mode: 80%-20% capacity
	Up/Down	Press to set desired water temperature
	Compressor	When the light is on, the compressor is running

Note:

- You may set the desired water temperature from 12 to 40°C.
- The center of the screen shows the inlet pool temperature. When the up and down keys are pressed, the digital flashing displays the set temperature.
- After you turn on the heat pump, the fan will start to run within 3 minutes. In another 30 seconds, the compressor will start to run.
- During heating, the icon  will display.

SYMBOL	DESIGNATION	OPERATION
	Wifi connection	Red light • Fast flashing indicates that the network is being distributed • Always on indicates that the Wifi connection is successful • Slow flashing indicates that the configuration record is being cleared
	Standard mode	When the red light is always on, it means the operation is in normal mode
	Silence mode	When the red light is always on, it means the operation is in silence mode
	Heating mode/defrosting	• When the light is always on, it means that the machine is running in heating mode • When the light is flashing, it means the machine is in its defrosting state
	Compressor operation	When the green light is always on, it means the compressor is running

Defrosting

Automatic defrost:

- When the machine is automatically defrosting, the  will flash, and after the defrost is completed, it automatically returns to the operation mode before defrosting.

Compulsory defrosting:

- When the heat pump is heating and the compressor is working continuously for 10 minutes, press and hold both "Mode" and  buttons for 5 seconds to start compulsory defrosting. (Note: the interval between compulsory defrosting should be more than 30 minutes at heating mode.)
- The heating light will be flashing when the heat pump is compulsory or auto defrosting.
- The running process and ending of compulsory defrosting are the same as auto-defrosting.

Temperature display conversion between °C and °F:

- Press and hold  and  together for 5 seconds to switch between °C and °F.

Wifi connection:

See the bottom section of this manual.

Advanced parameters **(This should only be attempted by experienced installers)**

1) Parameter Checking

Press and hold "Mode" and "▲" together for 5 seconds to enter "Parameter Checking" status, the parameter code "P0" and the parameter value "0" will display on the screen, such as "P0 0", which means water pump running way is continuous.

In "Parameter Checking" status, press "▲" or "▼" to check the parameters.

2) Parameter Modification

In "Parameter Checking" status, press "Mode" to enter the "Parameter Modification" mode, press "▲" or "▼" to change the values, then press "Mode" to confirm and quit "Parameter Modification" mode, press "▼" to quit "Parameter Checking" status.

3) Parameter list

NO.	CONTENT	ADJUST RANGE	STEP LENGTH
P0	Water Pump Running Way	0: Continuous 1: Water temp control 2: Time/water temp control	1
P1	Time Setting (Only available when the water pump running way is set to "2")	10 ~ 120 min	5 min
P2	Compressor Continuously Running Time between Defrosting Mode	30 ~ 90 min	1 min
P3	Defrosting Entry Temp	-17~0°C	1°C
P4	Maximum Defrosting Running Time	1 ~ 12 min	1 min
P5	Defrosting Exit Temp	8~30°C	1°C

4) Running status checking

Press "Mode" for 5 seconds, this enters "Running status checking", and the screen alternately shows status point "C0" and its corresponding value. Check all status points and their corresponding value through "▲" or "▼", Press "Mode" to quit "running status checking" mode.

Running status checking list:

SYMBOL	CONTENT	UNIT
C0	Inlet water temp.	°C
C1	Outlet water temp.	°C
C2	Ambient temp.	°C
C3	Exhaust temp.	°C
C4	Outer coil pipe temp. (Evaporator)	°C
C5	Gas return temp.	°C
C6	Inner coil pipe temp. (Titanium heat exchanger)	°C
C9	Cooling plate temp.	°C
C10	Electronic expansion valve opening	P
C11	DC fan speed	(r/min)

5. Post-installation inspection and test

Note: Please check all the wiring carefully before turning on the heat pump.

Inspection before use:

- Check installation of the whole heat pump and the pipe connections according to the pipe connecting drawing.
- Check the electric wiring according to the electrical wiring diagram and earthing connection.
- Make sure that the main power is well connected.
- Check if there are any obstacles in front of the air inlet and outlet of the heat pump.
- Test
- The user is to start the water pump before the heat pump and turn off the heat pump before the water pump for a longer service life.
- The user should start the water pump and check for any water leaks; Power on and press the ON/OFF button of the heat pump and set desired temperature in the thermostat.
- To protect the heat pump, the unit is equipped with start delay function. When starting the heat pump, the fan will start to run within 3 minutes; after another 30 seconds, the compressor will start.
- After the pool heat pump starts up, check for any abnormal noise from the heat pump.
- Check the temperature setting.

Precautions:

- Set an appropriate temperature to get comfortable water temperature to avoid overheating or overcooling;
- Do not place items that can block air flow near inlet or outlet area as the efficiency of the heater will be reduced or may even stop;
- Do not put hands into the outlet of the heat pump, and don't remove the screen of the fan at any time;
- If there are abnormal conditions such as noise, smell, smoke and electrical leakage, please switch off the machine immediately and contact your installer or supplier. Do not try to repair it yourself;
- Don't use or stock combustible gas or liquid such as thinners, paint and fuel near the unit to avoid fire;
- To optimise the heating efficiency, install insulation on pipes between the pool and the heat pump. During running period of the heat pump, please use a thermal cover on the swimming pool for the best results;
- Plumbing between the pool and the heater should be ≤10m, or the heating efficiency of the heater can be lower than expected;
- This heat pump achieves its best efficiency under air temperature of +15°C ~+25°C.

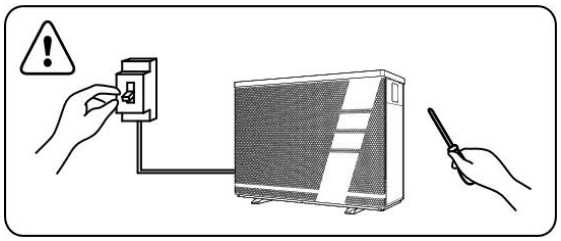
Safety:

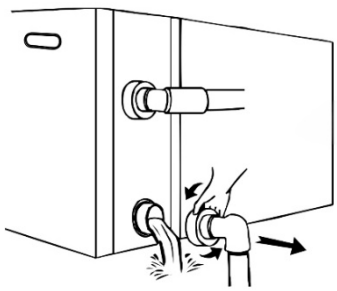
- Please keep the main power supply switch out of reach of children;
- When the power restores following a power cut, the heater will start automatically. You must switch off the power supply when there is a power cut and reset temperature when power is restored;
- Please switch off the main power supply during a storm to prevent damage that is caused by lightning;
- If the heat pump is to be shut off for extended periods, cut off the power supply and drain all water out of the heat pump by unscrewing the lower water union.

6. Maintenance

ATTENTION
The maintenance should be carried out once per year by a qualified professional technician.

- Cut off the power supply of the heat pump before cleaning, examination, and repairing. Do not touch the electronic components until the LED indicator lights on the PCB turn off.
- Please clean the evaporator with household detergents or clean water, NEVER use thinners or any similar fuel.
- Check bolts, cables, and connections regularly.
- Every three months spray surface insecticide on the surfaces around the unit to prevent any insect ingress.





Winterising:

In the winter season when you are not heating your pool, please cut off the power supply and drain the water out of the heat pump. When using the heat pump under 2°C, make sure there is always water flow.

ATTENTION
Unscrew the water union of inlet pipe to let the water flow out. When the water in the machine freezes in the winter seasons, the titanium heat exchanger may be damaged.

7. Troubleshooting for common faults

FAILURE	REASON	SOLUTION
Heat pump doesn't run	No power	Check there us power going to the unit
	Power switch is off	Switch on the power
	Fuse is burnt	Check and change the fuse
	The breaker is off	Check and turn on the breaker
Fan running but with insufficient heating	Evaporator blocked	Remove any obstacles
	Air outlet blocked	Remove any obstacles
	3 minute start delay	Wait patiently
Display normal, but no heating	Set temp. too low	Set a proper heating temp.
	3 minute start delay	Wait patiently
If the above solutions do not work, please contact your installer with detailed information and your model number. Do not try to repair it yourself.		

ATTENTION

Please do not attempt to repair the heat pump yourself.

8. Failure code

NO	DISPLAY	NOT A UNIT FAILURE - DESCRIPTION
1	**E3**	No water protection
2	**E5**	Power supply exceeds operating range
3	**E6**	Excessive temp difference between inlet and outlet water (Insufficient water flow protection)
4	**Eb**	Ambient temperature too high or too low protection
5	**Ed**	Anti-freezing reminder
6	**OFF**	Customer Control Switch DIN2 Disconnect

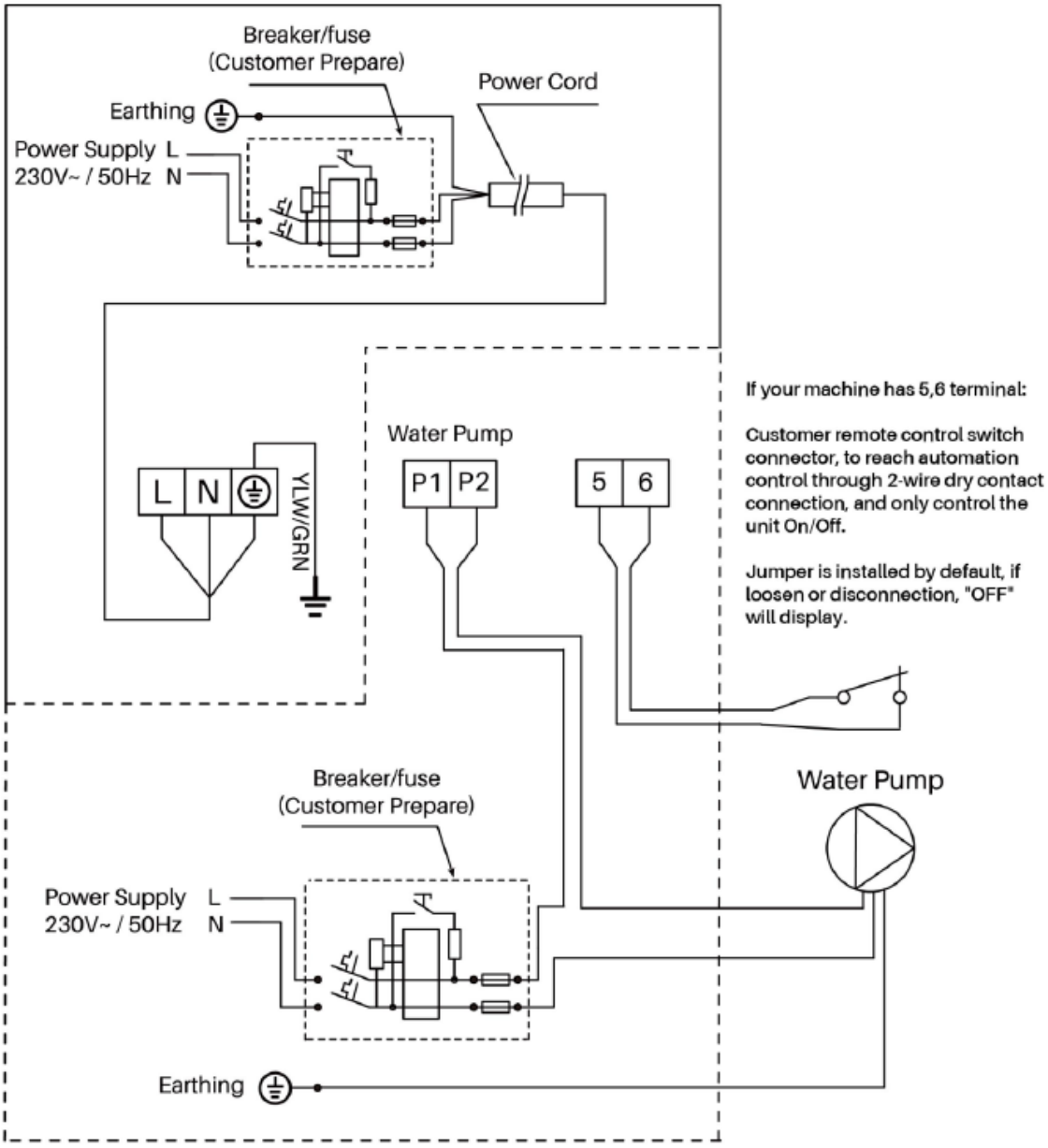
NO	DISPLAY	FAILURE DESCRIPTION
1	**E1**	High pressure protection
2	**E2**	Low pressure protection
3	**E4**	Phases lack protection (three phase model only)
4	**E7**	Water outlet temp too high or too low protection
5	**E8**	High exhaust temp protection
6	**EA**	Evaporator overheat protection (only at cooling mode)
7	**P0**	Controller communication failure
8	**P1**	Water inlet temp sensor failure
9	**P2**	Water outlet temp sensor failure
10	**P3**	Gas exhaust temp sensor failure
11	**P4**	Heating (Evaporator) coil pipe temp sensor
12	**P5**	Gas return temp sensor failure
13	**P6**	Cooling coil pipe temp sensor failure
14	**P7**	Ambient temp sensor failure
15	**P8**	Cooling plate sensor failure
16	**P9**	Current sensor failure
17	**PA**	Restart memory failure
18	**F1**	Compressor drive module failure
19	**F2**	PFC module failure
20	**F3**	Compressor start failure
21	**F4**	Compressor running failure
22	**F5**	Inverter board over current protection
23	**F6**	Inverter board overheat protection
24	**F7**	Current protection
25	**F8**	Cooling plate overheat protection
26	**F9**	Fan motor failure
27	**Fb**	Capacitor no charging protection
28	**FA**	PFC module over current protection
29	**8888**	Communication failure

ATTENTION

Please contact your installer with detailed information and your serial number.

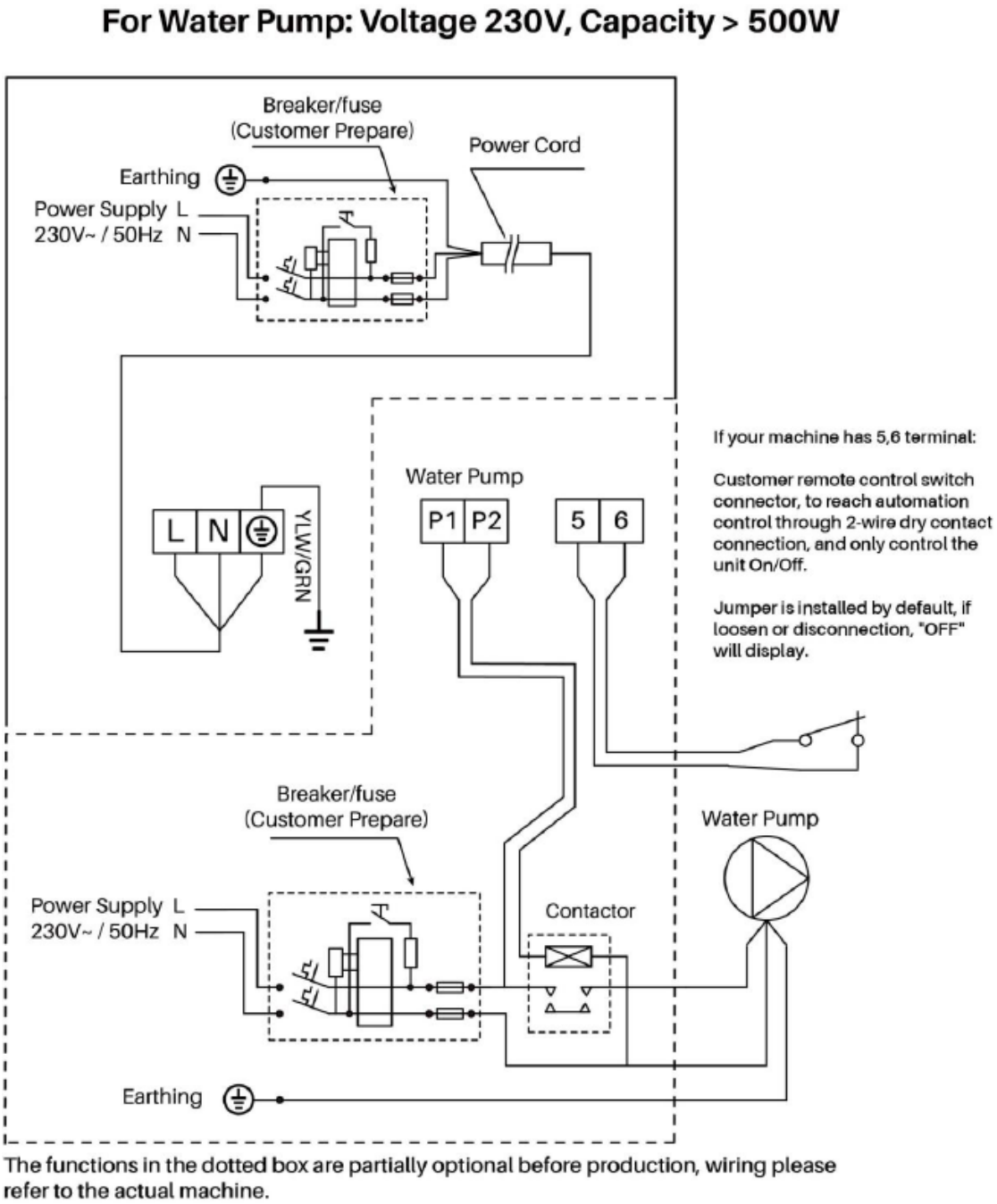
9. Appendix 1: Heating priority (Optional)

For Water Pump: Voltage 230V, Capacity ≤ 500W



The functions in the dotted box are partially optional before production, wiring please refer to the actual machine.

10. Appendix 2: Heating priority (Optional)



Parallel connection with filtration timer.

If the user wants to connect the water pump timer, the installer should connect water pump timer and water pump wiring of heat pump in parallel. So that water pump can start when water pump timer or water pump wiring of heat pump is connected, and water pump will only be switched off when both are disconnected at the same time.

11. Wifi setting

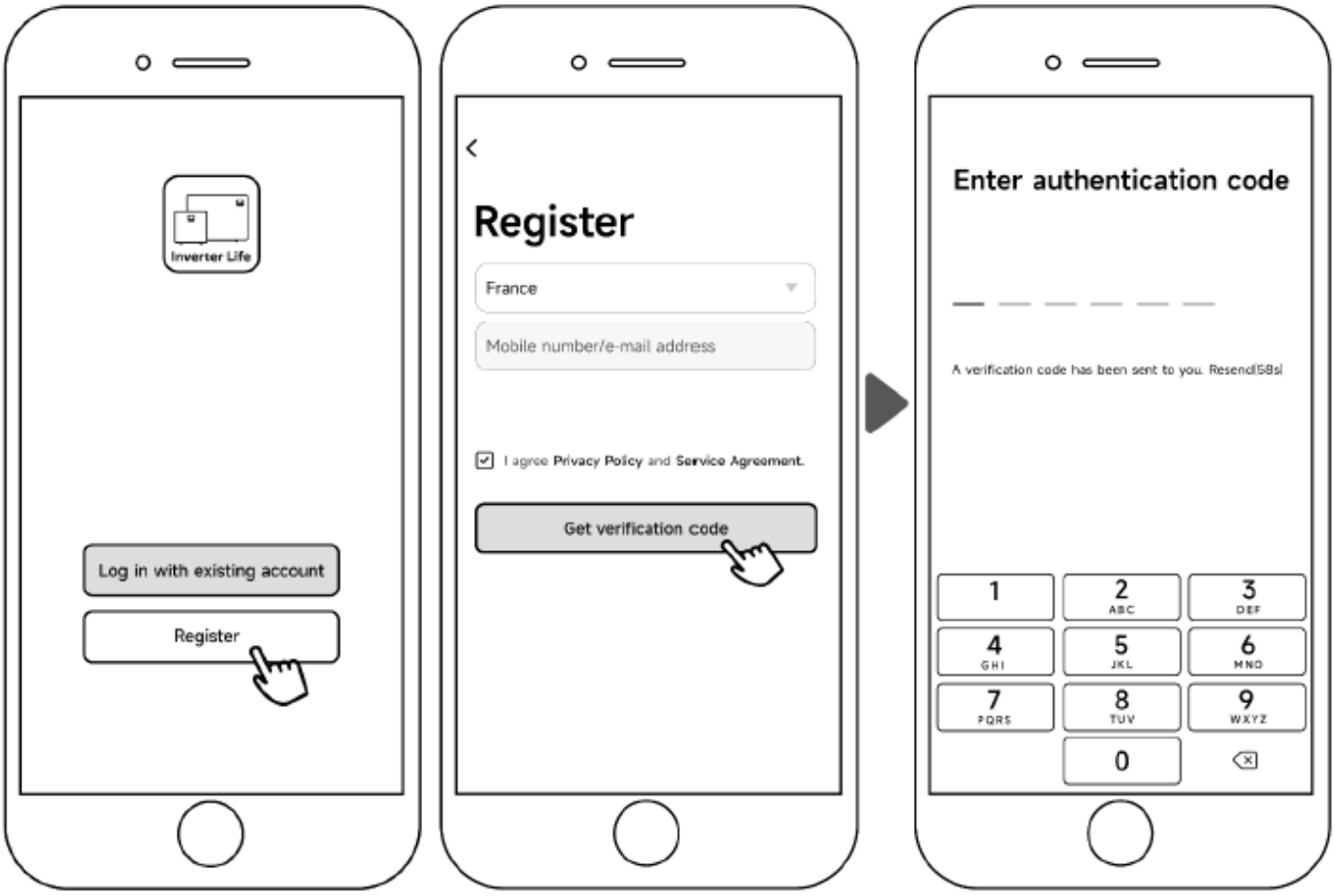
1) **Download the Inverter Life App**

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Android Google Play Download Link:
https://play.google.com/store/apps/details?id=com.inverter.outdoor&hl=en_AU

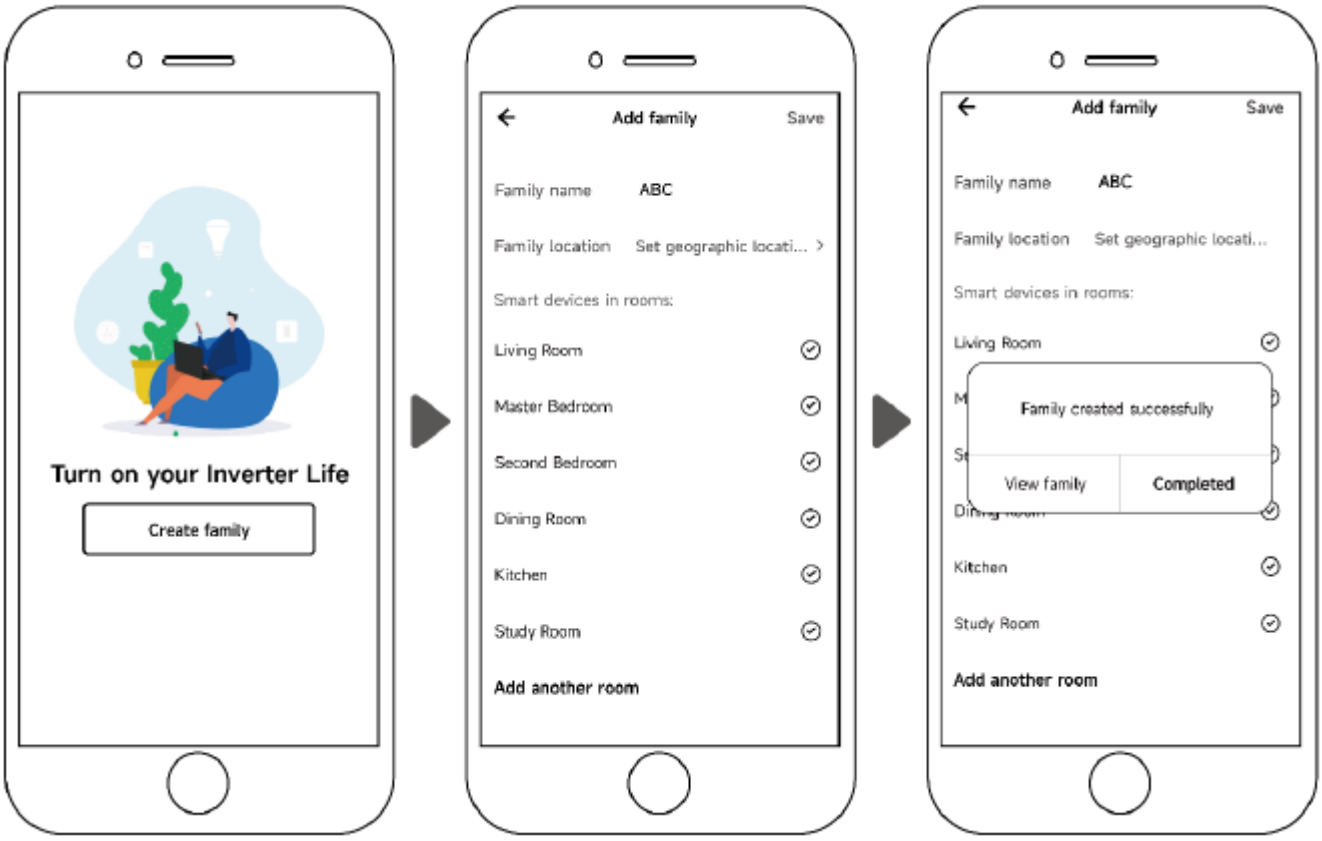
2) Account registration

Register using your Phone Number/Email



3) Create family

Please set the family name and choose the room for the device.



4) App Binding

Please make sure your mobile phone is connected to the Wifi.

IMPORTANT

- Please make sure the router is configured at 2.4GHz, 5GHz is not supported
- For smart routers, please disable band steering.

1) Wifi connection

When the heat pump is on, press mode three times, then press the up key to enter Wi-Fi setting. The display window shows the number of paired phones under this status.

Enter the APP to select Wi-Fi and input password to configure network for the device. When pairing, the display window and the Wi-Fi indicator will flash. After successful pairing, the display window number will increase by 1 and the setting interface will automatically exit.

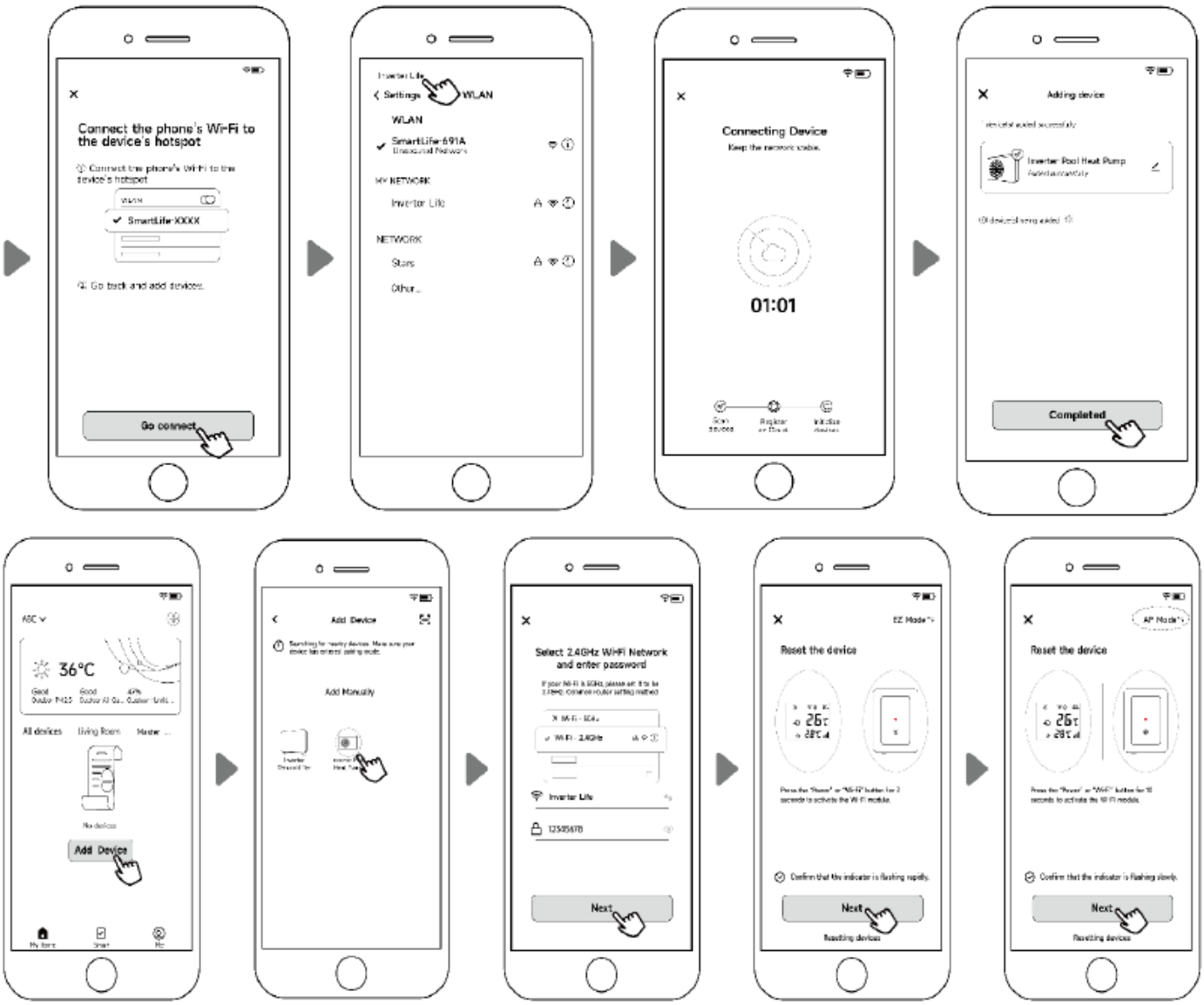


2) Wifi reset

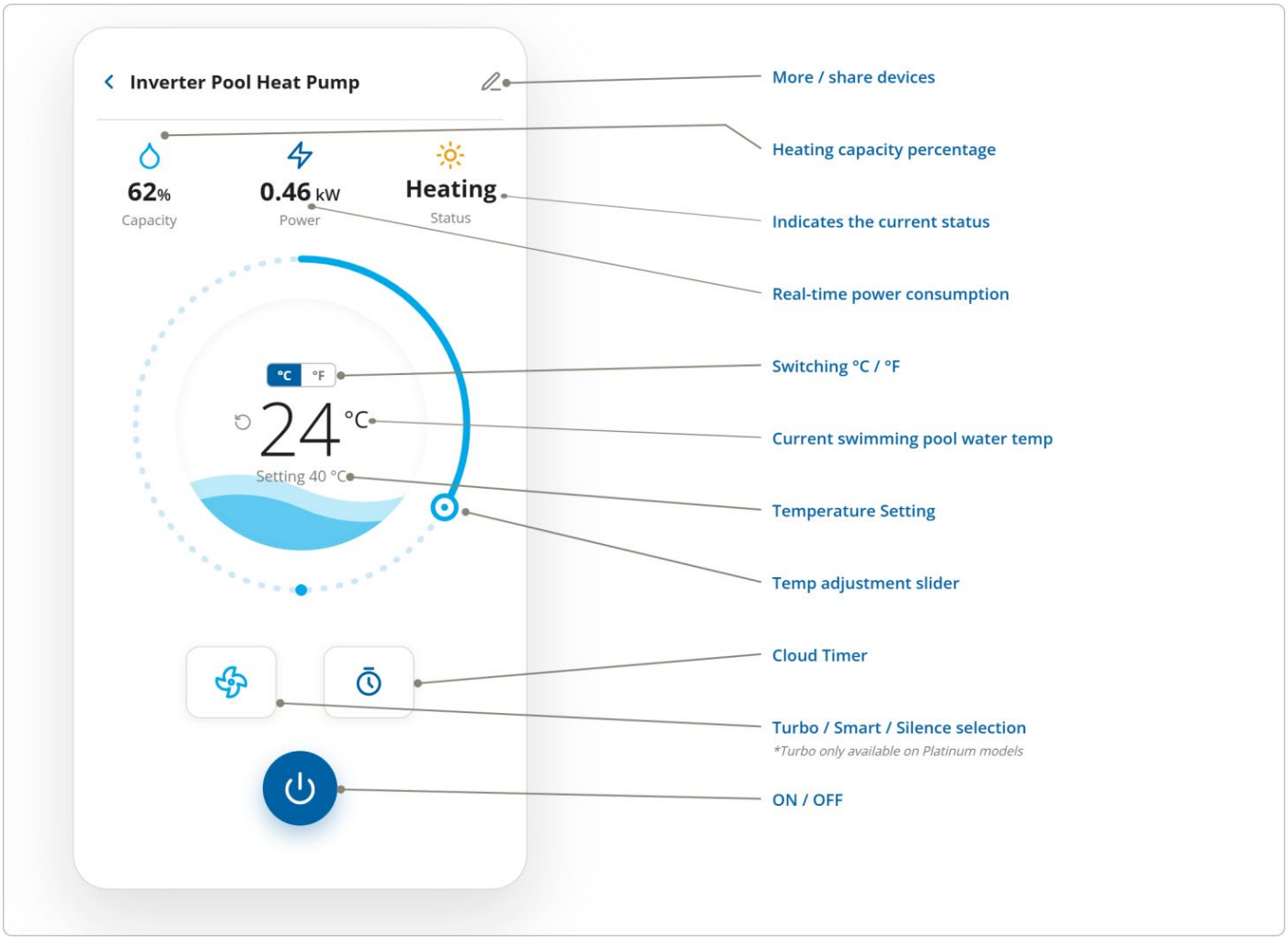
When the Wi-Fi password has changed or the network configuration has changed:
Under Wi-Fi setting status, press the up key and the power button and hold for 5 seconds to clear pairing. Then repeat the steps above for rebinding.

3) Exit Wifi setting

During Wi-Fi setting, press mode or the up key to exit.


Connect the phone's Wi-Fi to the device's hotspot
Go connect
Settings
WLAN
Connecting Device
01:01
Adding device
Completed
Add Device
Add Manually
Select 2.4GHz WiFi Network and enter password
Next
Reset the device
Next

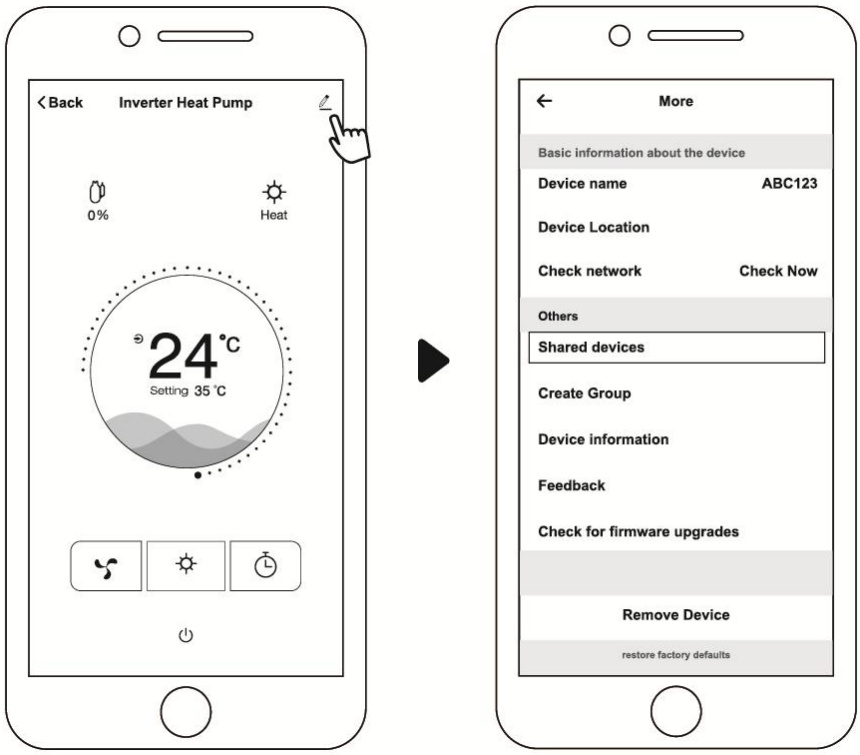
4) Operation

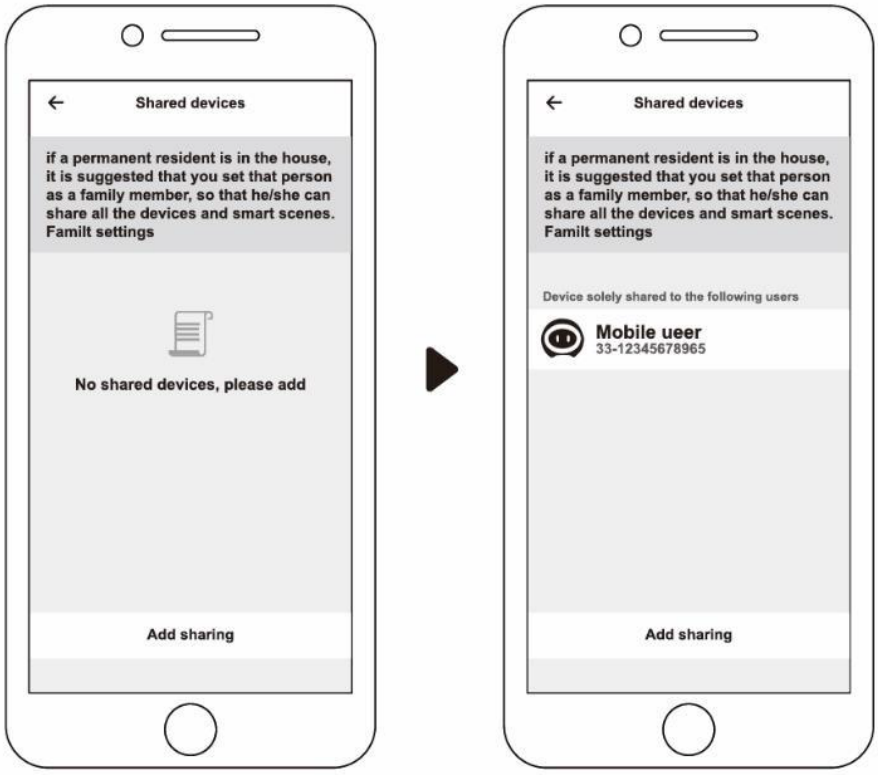


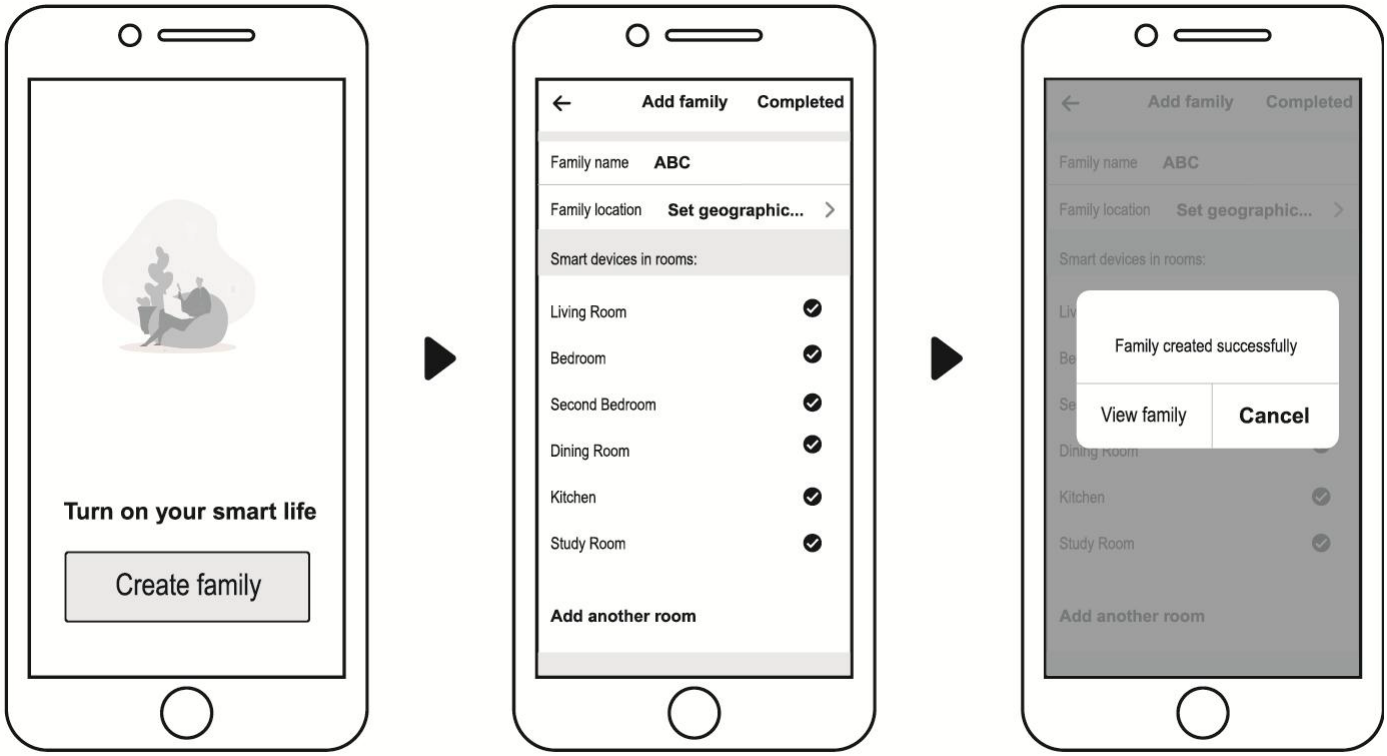
5) Share devices to your family members

After binding, if your family members also want to control the heat pump, they will need to register the APP first, and then the administrator can operate as per next page.

Your family members can login as below:





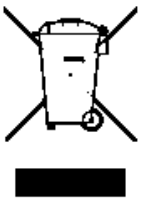


ATTENTION

- The weather forecast is just for reference.
- The app is subject to updates without notice.

For more information regarding the Celsius warranty, please see:
https://celsiusheatpumps.com.au/wp-content/uploads/2026/07/F650011050_Celsius_Heat_Pump_Warranty_24.06.26.pdf

Celsius reserves the final interpretation right.
And keep the right to stop, change and remove product/s and their respective specifications and design without prior notice at any time.



Version:Jp10Xr32

End of Document.